

G.

EAST FORK LIGHTNING CREEK
(tributary to Lightning Creek)

Summary

The East Fork Lightning Creek problem assessment will be completed in 2003 along with the Clark Fork River.

1. Physical and Biological Characteristics

Existing information on watershed conditions in the East Fork indicate the system is in poor condition as a result of flooding, road construction and subsequent failures, and logging activity. A logging road parallels the East Fork for much of the lower two miles, and there are several stream crossings within the drainage. Currently, portions of the road have been captured by the creek, and the East Fork is generally considered to be highly unstable with impaired fish habitat conditions (Pend Oreille Bull Trout Problem Assessment 1998). Cacek (1989) reported that the East Fork received significant volumes of landslide debris into the stream channel, due to road locations in relation to the stream channel.

In summary, excess bedload, loss of large woody debris, and altered water delivery and flow patterns have resulted in unstable channels. Riparian roads reduce recruitment of large woody debris to stream channels, reduce flood plain capacity, result in increased erosion, and contribute large amounts of bedload material to streams. Improperly constructed or maintained hill slope roads increase the drainage density and can influence the rate of water delivery to the stream channel from the basin. Road wash outs are common along portions of the East Fork road, and the East Fork crossing of the main Lightning Creek road contributes significant amounts of bedload material to the lower reach of the East Fork.

Approximately 12% of the drainage has been harvested. Past timber harvest included clearcuts, which can contribute to mass wasting in the East Fork area (Cacek 1998).

2. Pollutant Source Inventory

Point Source Discharges

Nonpoint Source Discharges

2.a. Summary of Past and Present Pollution Control Efforts

3. Water Quality Concerns and Status

3.a. Applicable Water Quality Standards

3.b. Summary and Analysis of Existing Water Quality Data

3.c. Data Gaps For Determination of Support Status

4. Problem Assessment Conclusions

References

Corsi, C., DuPont J., Mosier, D., Peters, R., and Roper, B. 1998. Lake Pend Oreille Key Watershed Bull Trout Problem Assessment. Idaho Department of Health and Welfare, Division of Environmental Quality. Coeur d'Alene, Idaho.

Cacek, C. C. 1989. The relationship of mass wasting to timber harvest activities in the Lightning Creek Basin, Idaho and Montana. Eastern Washington University, Masters Thesis.

H.

QUARTZ CREEK
(tributary to Lightning Creek)

Summary

The Quartz Creek problem assessment will be completed in 2003 along with the Clark Fork River.

1. Physical and Biological Characteristics

Quartz Creek, a tributary to Lightning Creek, was assessed in 1992 by BIO/WEST, Inc. Quartz Creek was dominated by pocket water and pool habitat formed by boulders and rock outcrops. Average maximum pool depth was 29 inches (74 cm) which is within the range of optimal pool depths for rainbow, cutthroat and bull trout. Residual pool depth was low, about 7 inches (18 cm), indicating marginal habitat during extreme low flow conditions. Pool riffle ratio was high at approximately 2:1, but pool abundance is low (11% of total stream habitat area). Cover availability was considered only slightly sub-optimal for adult trout (<25%), whereas pool cover was considered adequate for juvenile trout (>15%). The dominant cover type was boulders which is considered high quality.

Cobble constituted more than 25% of the substrate, and embeddedness was moderate at 35%. Despite the relative high levels of embeddedness, fines and sands made up less than 10% of the embedded material. Gravel substrate suitable for trout spawning was abundant in pools, but relatively uncommon in runs. Fines overall were rare (<5%), and sands and fines together were low enough to provide optimal trout spawning and emergence success.

Stream shade in Quartz Creek was less than the 50% considered ideal for trout streams, however, stream temperatures measured in October were well below state water quality standards levels for cold water biota, salmonid spawning and bull trout spawning.

2. Pollutant Source Inventory

Point Source Discharges

Nonpoint Source Discharges

2.a. Summary of Past and Present Pollution Control Efforts

3. Water Quality Concerns and Status

3.a. Applicable Water Quality Standards

3.b. Summary and Analysis of Existing Water Quality Data

3.c. Data Gaps For Determination of Support Status

4. Problem Assessment Conclusions

References